

Jumping Spiders (Araneae: Salticidae) of Satlasana Taluka

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Abstract— Family Salticidae is most species rich group of order Araneae. Jumping spiders are taxonomically diverse, present everywhere in huge abundance and diurnal. As their names simply, jumping spiders are also quick and agile jumpers, and will do so both to escape potential predators and to capture small prey and regulating arthropod population. Spiders have important role in ecosystems but they have been largely ignored in conservational studies. This might be one of the reasons of poor knowledge on jumping spider of this area. The study on jumping spiders made in different habitats from Satlasna Taluka during October 2014 to December 2017. Specimen collections were conducted using visual search, litter sampling, sweep netting and hand picking methods from all the sites. One hundred eighty four specimens belong to 28 species and 17 genera were recorded. For the period of this study certain new genera documented for Gujarat such as *Carrhotus sannio*; *Menemerus brachygnathus*; *M. fulvus*; *Phintella* sp.; *Siler semiglaucus* and *Thiania* sp.

Keywords— *Salticidae*, *diversity*, *spider*, *Satlasana*.

I. INTRODUCTION

Jumping spiders are relatively small spiders which belong to one of the largest and most diverse groups of true spiders found in world. Jumping spiders (Salticidae) contain 632 recognized and described genera, and over 6953 species, represent the most diverse spider family in the World spiders (World Spider Catalog 2018). Numerically 207 species and 73 genera recorded from India (Keswani *et. al.*, 2012). Total 43 species belong to 25 genera are recorded from Gujarat (Yadav *et. al.*, 2017). The aim of present study was to document and provide base line information of Salticidae spider fauna.

II. STUDY AREA

Satlasna taluka has 308.38 km² areas with 73 villages, situated 23.540 N latitude and 72.380 E longitudes. The study area is surrounded on the north by Banaskantha district, west-south by Kheralu taluka and on the eastern part of Sabarmati River. The forest of Satlasna is unclassified reserved forest (under section-IV). The weather condition of the Satlasna is irregular rainfall and

experiences a prolonged dry season which experiences a high variation in temperature with minimum going down 10° C in winter and maximum 44° C in summer, annual average rainfall is about 600 mm to 700 mm, approximately.

Table.1: Sites geographic location:

Sr. No	Sites	Geographic location	Habitats
1.	Taranga Hills	23°58'19.28"N 72°45'42.50"E	Forest
		23°57'51.34"N 72°45'13.57"E	Hilly Area
2.	Timba Village	23°59'24.63"N 72°45'27.06"E	Agriculture
		23°59'06.24"N 72°45'36.56"E	Waste land
3.	Dharoi Dam	24°00'38.87"N 72°50'37.30"E	Area near by Water body
4.	Satlasana Village	24°01'20.34"N 72°47'46.42"E	Residential Area

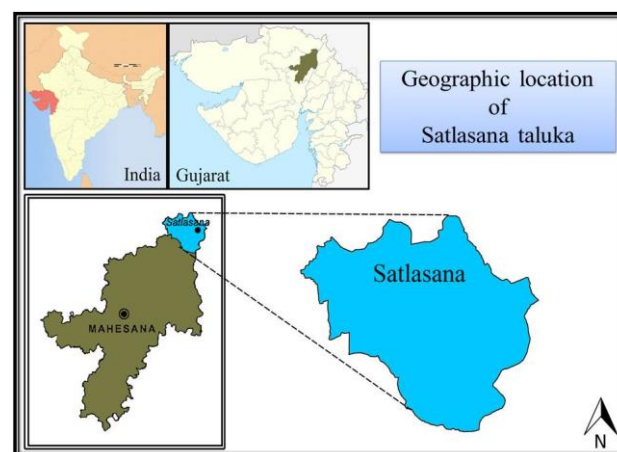


Fig.1: Map of Satlasana Taluka

III. METHODOLOGY

The Specimens collection was done in different selected sites, using various methods like visual search, litter sampling, sweep netting and hand picking. The sample collection was done during was mainly three time in day

with morning at 7am to 10am, in afternoon 1pm to 3pm and in evening at 4pm to 6pm from different parts of the habitats. All collected samples transferred in screw cap vials which contain 75% ethyl alcohol for preservation purpose. For the detailed study of morphological characters of collected samples, stereo zoom microscope was used. Specimens were identified up to family, genus and species level when possible with help of taxonomic keys and relevant taxonomic literatures.

IV. RESULTS

Total recorded 17 genera and 28 species from Satlasana.

FAMILY SALTICIDAE Blackwall, 1841

a. Genus *Carrhotus* Thorell, 1891

1. *sannio* Thorell, 1877

Material Examined: Dharoi village. Near Dam, 2♀, 19.09.2015, collected under shrub vegetation

Distribution: Réunion, India to Indonesia

2. *carrhotus* sp.

Material Examined: Timba village, near agriculture farms, 1♀ (Immature), 19.07.2015, collected from farms.

Distribution: Satlasana

b. Genus *Chrysilla* Thorell, 1887

3. *lauta* Thorell, 1887

Material Examined: Taranga, near Tapovan, 4♀, 01.07.2015, Timba village, 4♀, 25.11.2015, Dharoi village, near dam, 3♀, 28.10.2015, collected from vegetation and ground of park.

Distribution: Myanmar to China, Vietnam, India

c. Genus *Epeus* Peckham & Peckham, 1886

4. *indicus* Prószyński, 1992

Material Examined: Taranga, near Temple, 1♀, 25.06.2016, Timba village, 2♀, 28.08.2016, collected from leave of shrubs.

Distribution: India, Nepal

d. Genus *Epocilla* Thorell, 1887

5. *aurantiaca* Simon, 1885

Material Examined: Timba village, near agriculture farms, 4♀, 20.07.2015, Dharoi village, near dam, 1♀, 20.07.2015, collected from vegetation.

Distribution: India to Malaysia

e. Genus *Hasarius* Simon, 1871

6. *adansoni* Audouin, 1826

Material Examined: Taranga forest, 1♀, 08.06.2015, Timba village, 4♀, 02.08.2016, Dharoi village, near dam, 1♀, 02.10.2014, collected from collected from leave of shrubs.

Distribution: Africa. Introduced to both Americas, Europe, India, Laos, Vietnam, China, Japan

f. Genus *Hyllus* C. L. Koch, 1846

7. *semicupreus* Simon, 1885

Material Examined: Taranga forest, 1♀, 03.08.2016, Timba village, 4♀, 20.11.2014, Dharoi village, near dam, 1♀, 20.11.2014, collected from shrubs vegetation.

Distribution: India, Sri Lanka

g. Genus *Menemerus* Simon, 1868

8. *bivittatus* Dufour, 1831

Material Examined: Taranga forest, 10♀, 20-25.05.2016, Timba village, 9♀, 23.05.2016, Satlasana village, 5♀, 28.10.2015, collected from barks of trees and houses.

Distribution: Africa. Introduced to North, Central and South America, southern Europe, India, China, Japan, Australia, Pacific Is.

9. *brachygnathus* Thorell, 1887

Material Examined: Timba village, 8♀, 25.10.2016, Satlasana village, 1♀1 ♂, 25.10.2016, collected from houses.

Distribution: India to Japan

10. *fulvus* L. Koch, 1878

Material Examined: Taranga temple, 3♀2♂, 20.02.2015, Timba village, 6♀3♂, 20.02.2015, Satlasana village, 7♀, 20.08.2016, collected from barks of trees.

Distribution: India to Japan

h. Genus *Myrmarachne* MacLeay, 1839

11. *plataleoides* O. P.-Cambridge, 1869

Material Examined: Taranga temple, 6♀, 28-30.07.2016, Timba village, 3♀, 27.07.2016, Dharoi village, near dam, 1♀, 02.10.2014, collected from farm crop.

Distribution: India, Sri Lanka, China, Southeast Asia

12. *tristis* Simon, 1882

Material Examined: Timba village, 2♀, 28.07.2016, Dharoi village, near dam, 1♀, 02.10.2014, collected from vegetation.

Distribution: Libya to India

13. *Myrmarachne* sp. 1

Material Examined: Taranga temple, 2♀ (Immature), 20.03.2016, collected from collected from vegetation.

Distribution: Satlasana

14. *Myrmarachne* sp. 2

Material Examined: Timba village, 1♀ (Immature), 25.04.2016, collected from collected from farm vegetation.

Distribution: Satlasana

i. Genus *Phintella* Strand, in Bösenberg & Strand, 1906

15. *vittata* C. L. Koch, 1846

Material Examined: Taranga forest, 4♀, 25.02.2015, Timba village, 2♀, 28.02.2015, Dharoi village. Near dam, 1♀, 28.02.2015, collected from ground and vegetation.

Distribution: India to Philippines

16. *alboterminus* John T. D. Caleb, 2014

Material Examined: Timba village, 1♀, 28.09.2016, collected from houses.

Distribution: India, Satlasana

j. Genus *Phlegra* Simon, 1876

17. *dhakuriensis* Tikader, 1974

Material Examined: Taranga temple, 2♀, 05.07.2016, Timba village, 1♀, 10.08.2016, Dharoi village, near dam, 1♀, 02.10.2014, collected from shrub leaves.

Distribution: Pakistan, India

k. Genus *Plexippus* C. L. Koch, 1846

18. *paykulli* Audouin, 1826

Material Examined: Taranga forest, 6♀3♂, 25.06.2015, Timba village, 3♀, 25.07.2015, Dharoi village, near dam, 2♀, 28.09.2016, collected from shrubs vegetation and houses.

Distribution: Africa. Introduced to both Americas, Europe, India, China, Japan, Korea, Philippines, Papua New Guinea, Australia, Pacific islands

l. Genus *Ptocasius* Simon, 1885

19. *Ptocasius* sp.

Material Examined: Timba village, 1♀ (Immature), 23.02.2015, collected from shrubs vegetation around farms.

Distribution: Satlasana

m. Genus *Siler* Simon, 1889

20. *semiglaucus* Simon, 1901

Material Examined: Timba village, 10♀, 29.04.2016, Satlasana village. 2♀, 25.06.2016, collected from shrubs vegetation

Distribution: India to Philippines

21. *Siler* sp.

Material Examined: Timba village, 1♀ (Immature), 07.02.2015, collected from road side vegetation

Distribution: Satlasana

n. Genus *Stenaelurillus* Simon, 1886

22. *lesserti* Reimoser, 1934

Material Examined: Taranga forest, 12♀, 29-31.07.2015, Timba village, 5♀, 25.08.2015, Dharoi village, near dam, 1♀, 24.09.2015, collected from ground vegetation.

Distribution: India, Sri Lanka

23. *Stenaelurillus* sp. 1

Material Examined: Timba village, 2♀ (Immature), 25.09.2016, Dharoi village, near dam, 1♀ (Immature), 25.09.2016, collected from ground vegetation.

Distribution: Satlasana

24. *Stenaelurillus* sp. 2

Material Examined: Timba village, 1♀ (Immature), 21.09.2016, Dharoi village, near dam, 1♀, 12.09.2016, collected from ground vegetation.

Distribution: Satlasana

25. *Stenaelurillus* sp. 3

Material Examined: Timba village, 1♀ (Immature), 01.09.2016, collected from ground vegetation.

Distribution: Satlasana

o. Genus *Telamonia* Thorell, 1887

26. *dimidiata* Simon, 1899

Material Examined: Taranga forest, 4♀3♂, 11.03.2016, Timba village, 3♀2♂, 25.05.2016, Dharoi village, near dam, 2♀, 28.09.2016, collected from shrubs vegetation.

Distribution: India, Bhutan, Malaysia, Indonesia (Sumatra)

p. Genus *Thiania* C. L. Koch, 1846

27. *Thiania* sp.

Material Examined: Timba village, 1♀ (Immature), 26.07.2016, Satlasana village, 1♀ (Immature), 26.07.2016, collected from Vegetation.

Distribution: Satlasana

q. Genus *Thyene* Simon, 1885

28. *imperialis* Rossi, 1846

Material Examined: Taranga forest, 2♀, 20.05.2015, Timba village, 1♀, 20.06.2015, Satlasana village, 1♀, 28.2.2016, collected from leaves of trees.

Distribution: Southern Europe, North and East Africa, Near East to Central Asia and China, India, Indonesia

Comments

Present study, total 28 species and 17 genera of the family Salticidae is recorded from Satlasana Taluka. Moreover, new generic records of jumping spiders have been given for the species found in study area, which were *Carrhotus sannio*; *Menemerus brachygnathus*; *M. fulvus*; *Phintella* sp.; *Siler semiglaucus* and *Thiania* sp. In the collection of spiders, most collective and abundant spiders were *Hyllus semicupreus*, *Menemerus bivittatus*, *Phintella vittata*, *Plexippus paykulli*, *Stenaelurillus lesserti* and *Telamonia dimidiata*. Out of total species collected, four genera and five species recorded new to Gujarat. Further study is required for understand the complete salticid fauna of study area as well estimate species identity of immature spiders collected during study.

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